

### ABSTRACT OF THE DISCLOSURE

1           A method and apparatus for preventing thermo-mechanical damage to  
2   an electrostatic discharge (ESD) protection device is disclosed. The method  
3   and apparatus of the invention focus on preventing ESD protection circuit  
4   failure due to elastic waves within the materials of an integrated circuit. The  
5   elastic waves are specifically caused by very fast ESD discharge events.  
6   Disclosed are ESD protection circuits incorporating materials with superior  
7   thermo-mechanical properties, in particular, material damping, melting  
8   temperature, material stiffness, elastic modulus, tensile strength and fracture  
9   toughness. Also disclosed is the use of thermo-mechanical energy absorber  
10   material that is designed to protect ESD devices from failure due to slower  
11   ESD events.